

# ***Webasto Product North America***

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# ***A Little About Us...***



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**Thomas Built Buses  
Freightliner chassis  
Detroit Diesel / Mercedes Benz engines  
Cummins engines  
REI surveillance systems**

**Braun & Ricon wheelchair lifts  
Sure Lok & Q straint systems  
IMMI / Safeguard seating  
Freedman seating  
Webasto Product N.A.**

# **IDLE ELIMINATION**

***Reduce Oil Dependency- TWO BIG REASONS!***



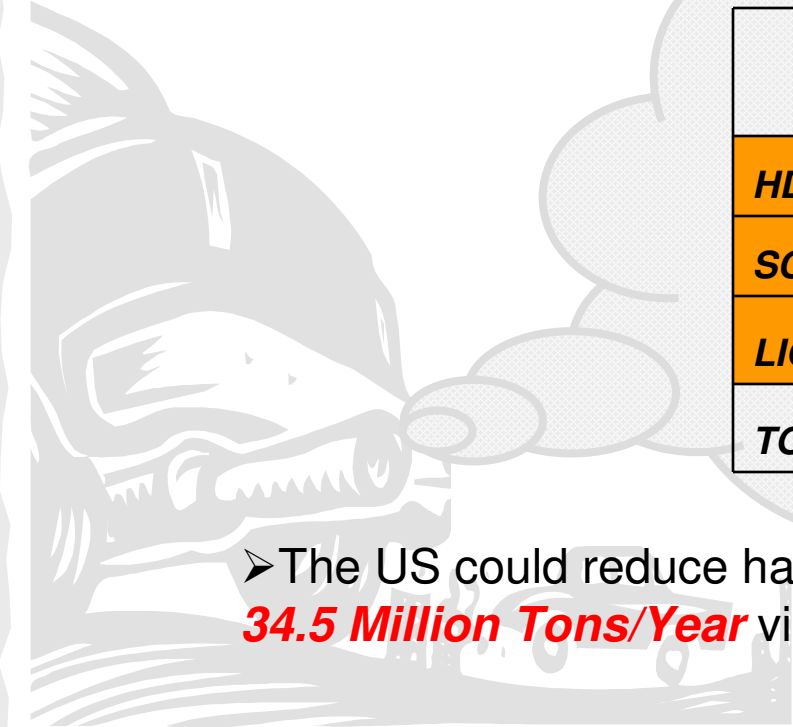
- **8.0%** Of The National Daily Consumption Is Attributed To Idling
- US Dependency On Foreign Oil Can Be Cut Significantly By Addressing Idling



# IDLE ELIMINATION REDUCTION OF GREEN HOUSE GASES



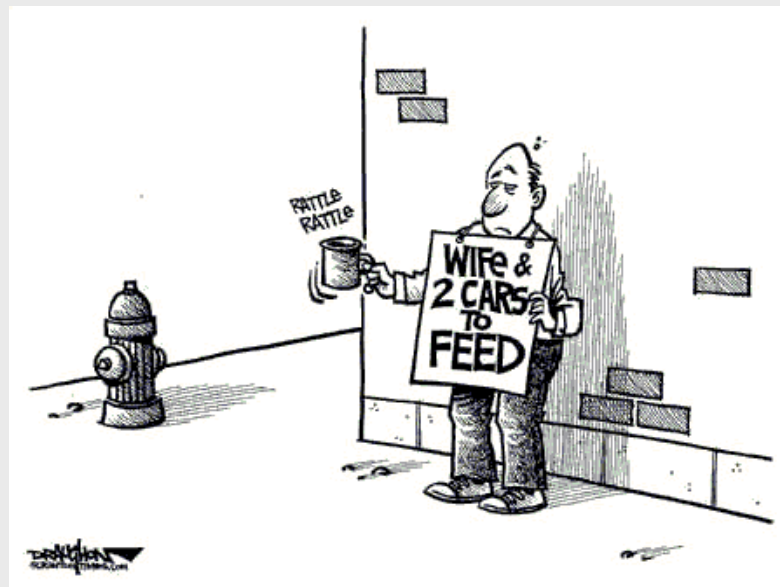
- The US is the world's largest producer of GHG



	<b>Emissions GHG CO2 TONS/YEAR</b>
<b>HD TRUCK</b>	27,556,163
<b>SCHOOL BUS</b>	733,177
<b>LIGHT DUTY</b>	6,306,371
<b>TOTAL ALL</b>	<b>34,595,711</b>

- The US could reduce harmful Green House Gases, such as CO2, by **34.5 Million Tons/Year** via idle elimination
- Idling makes up **.6%** of the US national CO2 output

# ***THE SECOND REASON!***



# ***HOW IS IT DONE? Industry Recognized Anti-idling Technologies***



***•Battery Powered  
•Systems***

***Fuel Operated Heaters***

***Green Green***

***Automatic Shut-  
Down/Start-Up***

***Engine-off Cooling***

***Stationary***

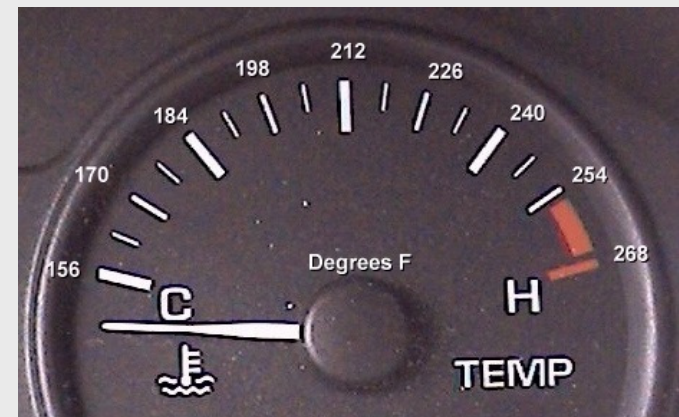
***Auxiliary Power Unit or  
Generator Set***



For More Information: <http://www.epa.gov/smartway/idlingtechnologies.htm>

# FACTS...why a F.O.H.?

- ❖ *Tail pipe emissions are highest when engine temperatures are “Coldest”.*
- ❖ *Cold starting is equivalent to 800 miles of driving.*
  - ❖ *(Truck Maintenance Council)*
- ❖ *Fuel Economy is not efficient.*

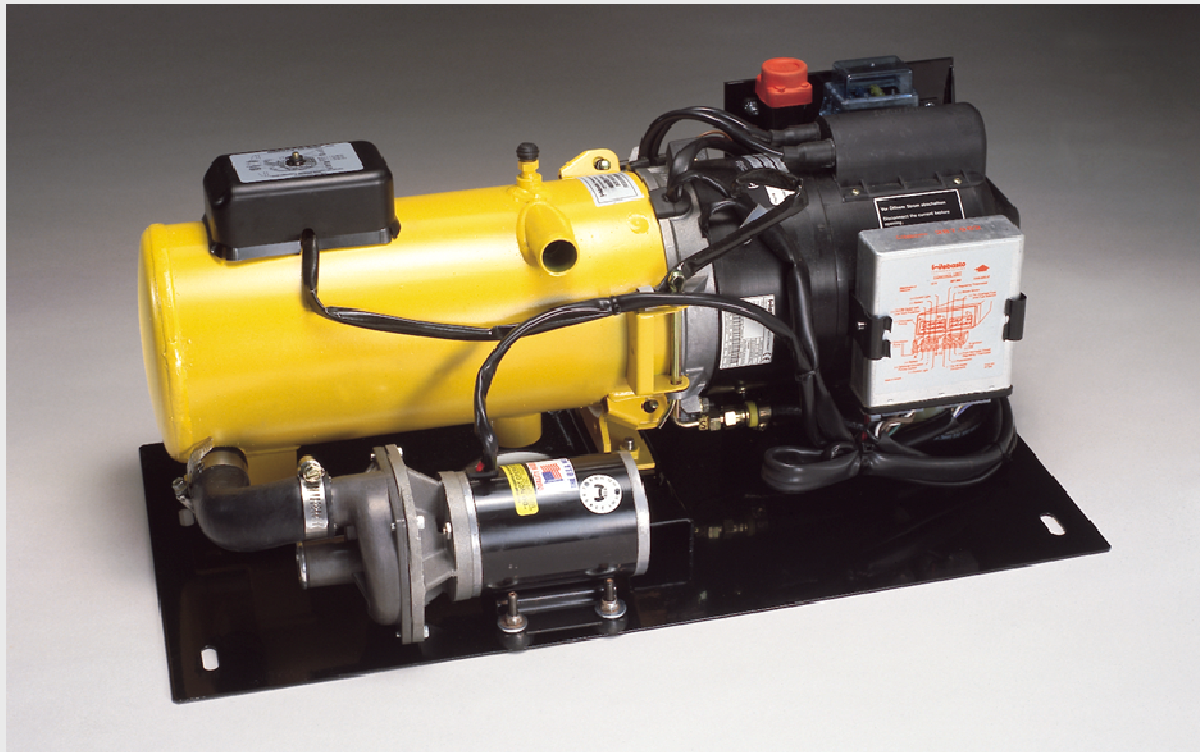


# ***SOLUTION...THE F.O.H.***

- *Achieve Optimum Engine Temperature Level Before “Turning The Key”.*
- ***BENEFITS:***
  - *Up to 90 % Lower Emissions @ Start UP*
  - *Virtually No Emissions for Warming*
  - *Decreased Engine Wear*
  - *Extended Key Component Life*
  - *Increased Fuel Economy*



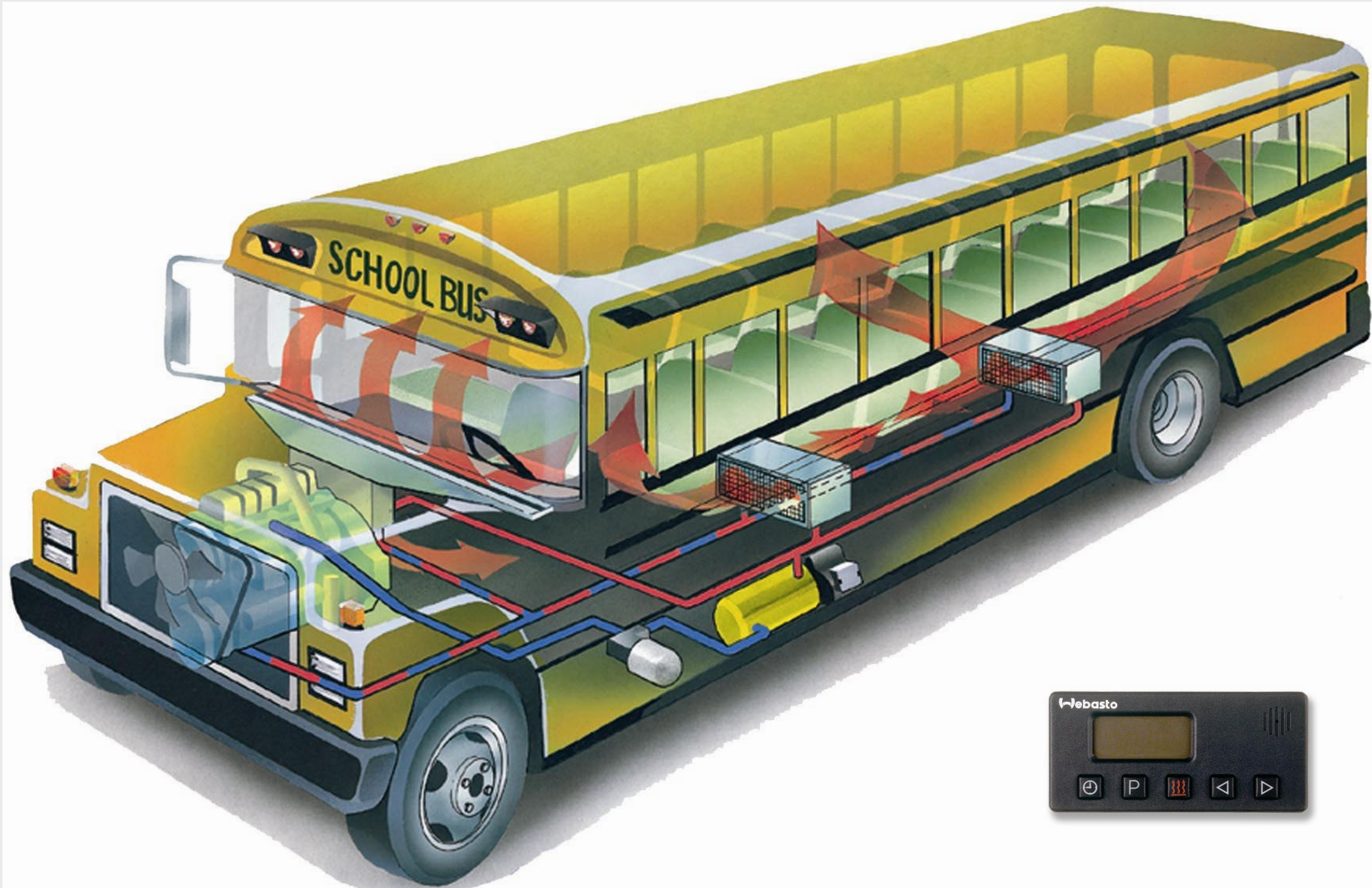
# Scholastic Series



- 45,000 BTU
- 0.4 Gallons Max
- 9.5 Amps (Incl. Pump)

# SCHOLASTIC SERIES

**Webasto**  
*Feel the drive*



# WEBASTO PRODUCT BENEFITS



Engine Preheating



Eliminates Electrical Usage



Enables Off Site Vehicle Storage



Eliminates Cold Starts / Wear & Tear



Extends Key Component Life



Reduces Start-Up Emissions



Accelerates & Maintains Window Defrost / Defogging



Reduces Idle Time & Saves Fuel

# WEBASTO PRODUCT BENEFITS



Increased MPG



Maximizes Interior Heating Capabilities



Reduced Recovery Heating Time – Special Needs Applications



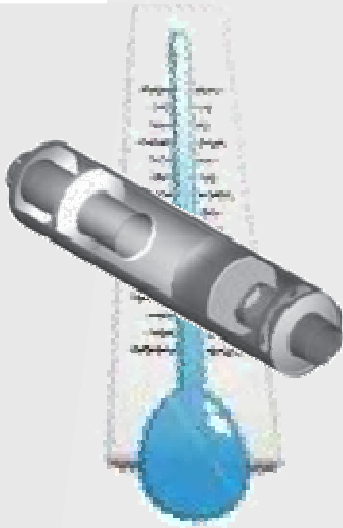
Positive Effect on Emission Retrofit Technology



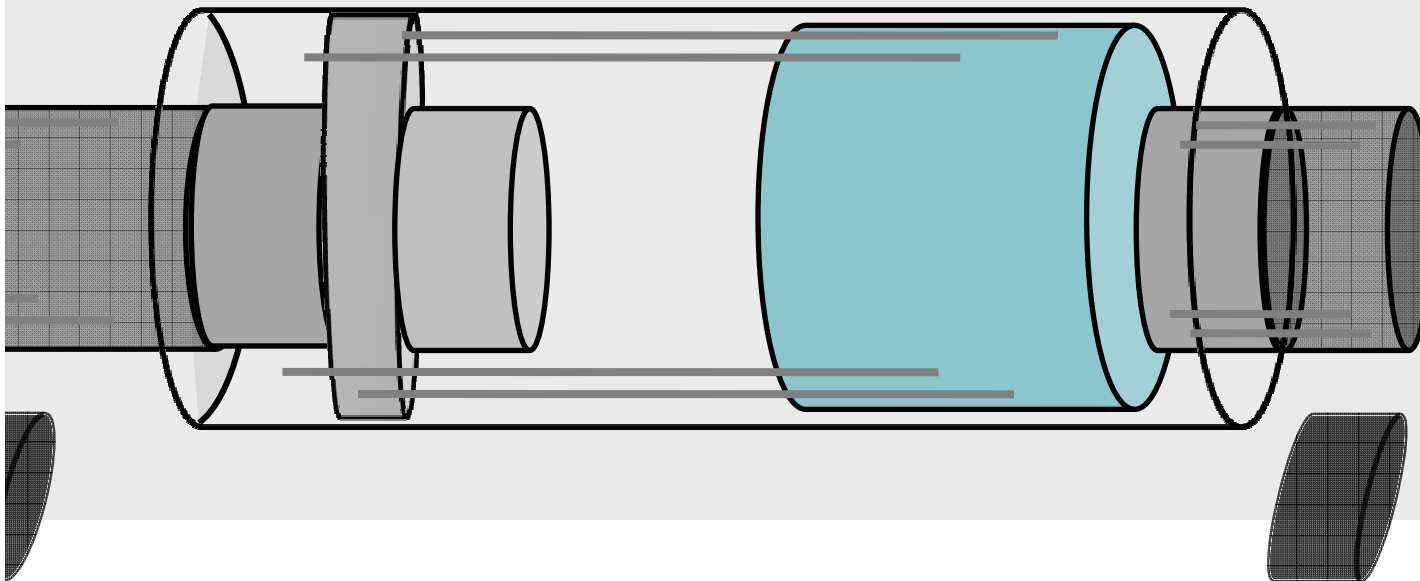
Driver Retention Tool

# ***Negative Impacts of a Cold Engine / Diesel Particulate Filter (DPF)***

## ***Issues Related to a Cold Start:***



- More particulates escape
- Uncombusted fuel and particulate build up on DPF creating increased back pressure
  - Resulting in reduces engine and DPF efficiency
- Shortened DPF life cycles results in more frequent cleaning, maintenance costs and vehicle downtime
  - A cleaned DPF is not as effective as a new one
- Worst case replacement of the DPF substrate is extremely expensive \$5,000-8,000 per vehicle

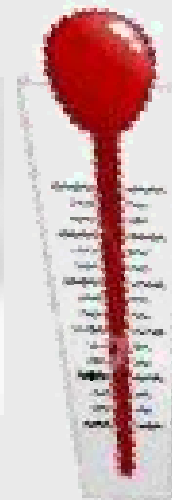
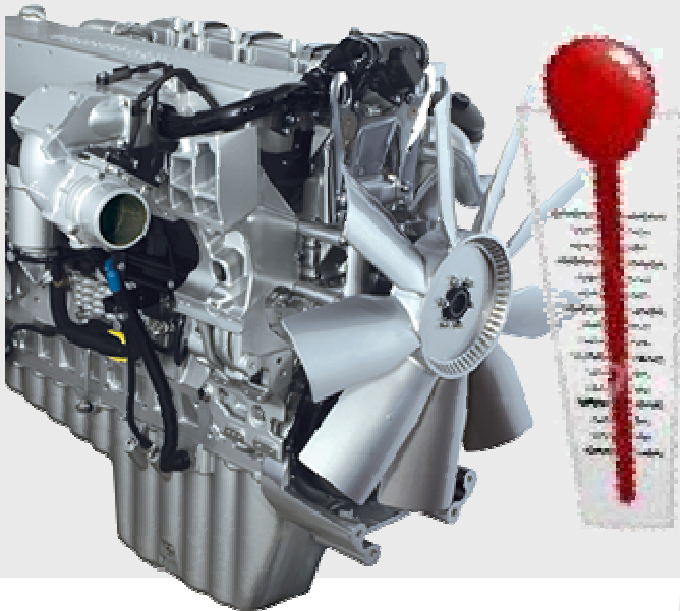


# ***Benefits of adding a Webasto in Combination with a Diesel Particulate Filter (DPF)***



## ***A pre-heated engine means:***

- Reduces idling emissions and fuel consumption
- Engine and DPF start at their optimum operating temperature
  - Increasing engine and DPF efficiency and performance
- Increased DPF life cycles costs
  - DPF should last longer
  - Less cleaning required
  - Reduced maintenance costs and vehicle downtime



# DIAGNOSTIC TEST ANALYZER

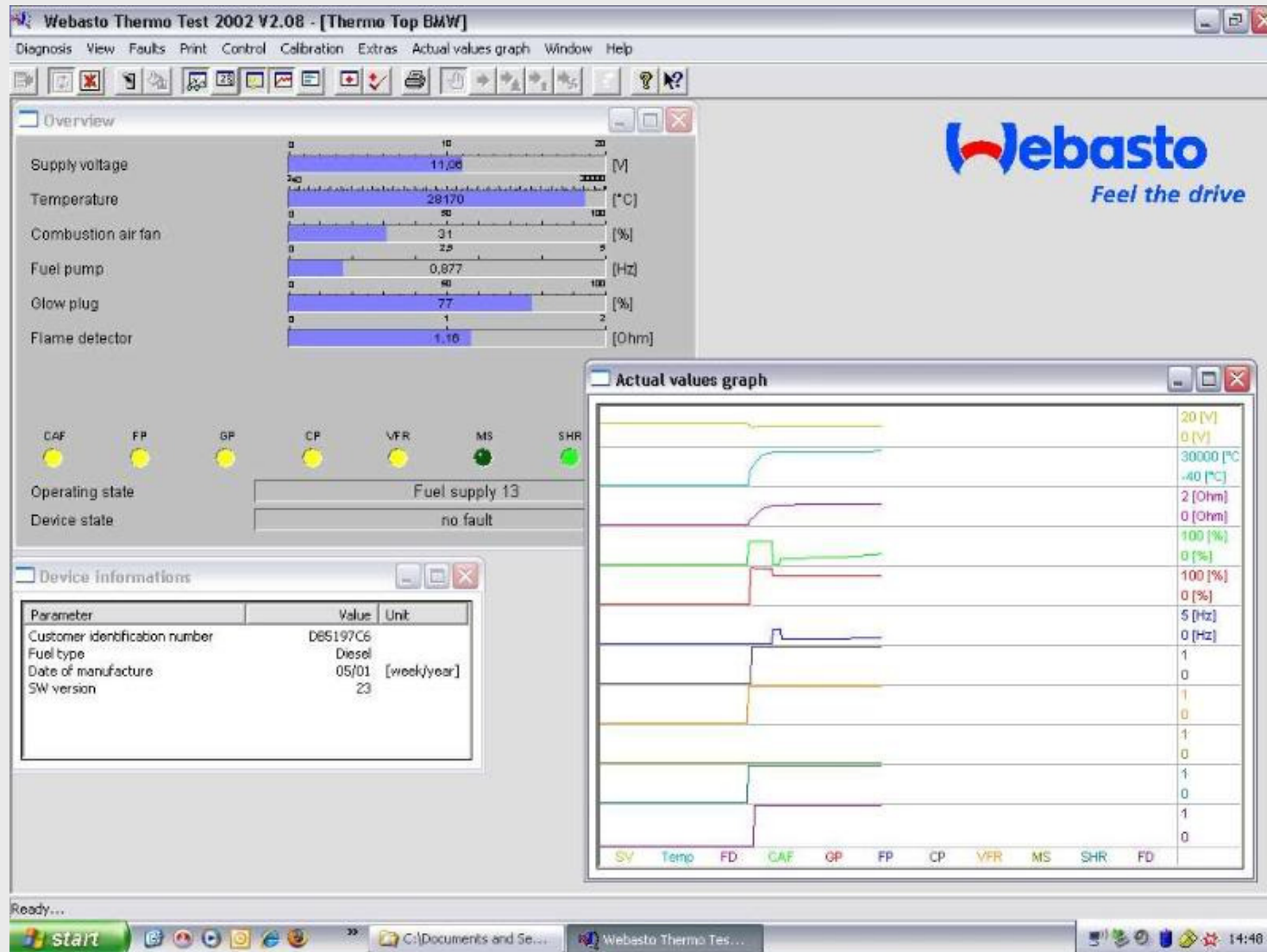


# THERMO TOP



- 17,000 BTU
- 0.18 Gallons Max
- 2.8 Amps (Incl. Pump)

# Diagnostic Software Overview



# TIMERS – CONTROL DEVICES



## ***7 Day Digital Timer***

*3 Events  
Settable Up To 7 Days  
In Advance*



## ***7 Day NOI Timer***

*8 Events  
Automatic Operation*



***The End***